

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

THE NOCO COMPANY, INC.	)	CASE NO.1:17CV2209
	)	
Plaintiff,	)	JUDGE CHRISTOPHER A. BOYKO
vs.	)	
	)	
SHENZHEN CHANGXINYANG	)	<u>OPINION AND ORDER</u>
TECHNOLOGY CO., LTD.	)	
	)	
Defendant.	)	

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THE NOCO COMPANY, INC.,	)	CASE NO.1:17CV2210
	)	
Plaintiff,	)	JUDGE CHRISTOPHER A. BOYKO
vs.	)	
	)	
SHENZHEN VALUELINK	)	<u>OPINION AND ORDER</u>
E-COMMERCE CO. LTD.,	)	
	)	
Defendant.	)	

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THE NOCO COMPANY, INC.	)	LEAD CASE NO.1:17CV2282
	)	
Plaintiff,	)	JUDGE CHRISTOPHER A. BOYKO
vs.	)	
	)	
SHENZHEN DIKA NA'ER	)	<u>OPINION AND ORDER</u>
E-COMMERCE, CO. LTD.,	)	
Defendant.	)	

**CHRISTOPHER A. BOYKO, J:**

This matter is before the Court on the Special Master Report on Proposed Claim Construction for U.S. Patent No 9,007,015 (ECF # 44) and Defendants' Objections to the Special Master's Report on the Proposed Claim Construction. (ECF # 47). For the following reasons, the Court overrules Defendants' Objections and adopts the Special Master's claim constructions.

**Background Facts**

In 2014, Plaintiff The NOCO Company, Inc. (“Plaintiff”) introduced a lithium-ion battery-powered jump starter (the “Genius Boost”) to the market. On July 3, 2014, Plaintiff filed a utility patent application for the Genius Boost, which was granted and issued as U.S. Patent No. 9,007,015 (the “’015 Patent”) on April 14, 2015. The ‘015 Patent discloses and claims a handheld jump starter that includes a lithium-ion battery, microcontroller and sensors to detect whether the device is properly connected to both terminals of a vehicle battery:

Apparatus for jump starting a vehicle engine, comprising:

- an internal power supply;

- an output port having positive and negative polarity outputs;

- a vehicle battery isolation sensor connected in circuit with said positive and negative polarity outputs, configured to detect presence of a vehicle battery connected between said positive and negative polarity outputs;

- a reverse polarity sensor connected in circuit with said positive and negative polarity outputs, configured to detect polarity of a vehicle battery connected between said positive and negative polarity outputs and to provide an output signal indicating whether positive and negative terminals of said vehicle battery are properly connected with said positive and negative polarity outputs of said output port;

- a power switch connected between said internal power supply and said output port; and

- a microcontroller configured to receive input signals from said vehicle isolation sensor and said reverse polarity sensor, and to provide an output signal to said power switch, such that said power switch is turned on to cause said internal power supply to be connected to said output port in response to signals from said sensors indicating the presence of a vehicle battery at said output port and proper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs, and is not turned on when signals from said sensors indicate either the absence of a vehicle battery at said output port or improper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs. Compl. ¶¶ 15, 17.

On August 29, 2018, the Court granted the Joint Motion to consolidate the above-captioned cases. Plaintiff alleges that Defendants Shenzhen Dika Na’er E-Commerce Co., Ltd.,

Shenzhen Changxinyang Technology Co. Ltd. and Shenzhen Valuelink E-Commerce Co., Ltd.

(“Defendants”) sold similar devices (the “Suaoki Models,” the “FlyHi Models” and the “DB Power Models”), which infringed the ‘015 Patent similarly as alleged in the Suaoki complaint:

Shenzhen Dika infringes the ‘015 Patent in violation of 35 U.S.C. § 271 by making, using, offering to sell and/or importing at least the following models of compact lithium jump starters sold under the brand name Suaoki that have safety features claimed in the ‘015 patent: K12 8000mAh 300A Peak Jump Starter Lithium Battery Booster Powerpack, T10 400A Peak 12000 mAh Car Jump Starter Battery Booster Powerpack, U10 800A Peak 20000mAh Portable Car Battery Jump Starter, U28 2000A Peak Jump Starter Pack and U3 400A Peak Jump Starter Lithium ion Phone Charger and Battery Booster.

Compl. ¶ 18.

Plaintiff alleges that each of the infringing Models meets each element of Claim 1 of the ‘015 Patent:

Each of the Infringing Models has a lithium battery pack that acts as an internal power supply.

Each of the Infringing Models has positive and negative polarity outputs on an output connector.

Each of the Infringing Models has an optocoupler sensor that senses the presence of a vehicle battery: when a vehicle battery is connected to the device’s terminals, voltage signals from the device’s lithium battery pack are immediately raised and a LED showing that a jump start in process is illuminated, indicating that the optocoupler has sensed the presence of a battery.

Each of the Infringing Models has a sensor that outputs a signal indicating whether a battery is connected in proper polarity; for example, when a battery is connected to the device in a reverse polarity state, the sensor causes a red LED indicating a reverse connection to be illuminated.

Each of the Infringing Models has a transistor that controls the device’s power switch.

Each of the Infringing Models has a microcontroller that receives signals

from the above-described sensors and processes them such that the device is not turned on when the sensors indicate that a battery is not connected to both outputs, or that the connection is in a reverse polarity state.

Compl. ¶ 19.

Plaintiff's Complaint alleges Patent Infringement in Violation of 35 U.S.C. § 271.

After the Court denied Defendants' Motion to Dismiss, the parties prepared their claim construction briefs. The Court appointed a Special Master to address the disputed claims. In subsequent briefing the parties presented the eight disputed claim terms for the Special Master to address. The Special Master then conducted a claim construction hearing. After the conclusion of the briefing and the hearing the Special Master issued his Report on February 12, 2019. On March 6, 2019, Defendants filed their Objections to three of the Special Master's recommended constructions. On March 12, 2019, Plaintiff requested the opportunity to file a response by March 22, 2019, which the Court granted. On March 22, 2019, Plaintiff filed its Response to Defendants' Objections, opposing the same. The Objections are now ripe for ruling.

### **The Special Master's Proposed Constructions**

In his Report, the Special Master was asked to render Proposed Constructions on the claims disputed by the parties. The parties submitted eight claim terms to the Court for construction. The Special Master issued his recommended construction and Defendants challenge only three of those constructions. The eight claim terms submitted for construction are as follows:

Term or Phrase	Plaintiff's Proposed Construction	Defendant's Proposed Construction
Sensor	The component of an instrument that converts an input signal into a quantity that is measured by another part of the instrument	No construction necessary
Reverse polarity sensor	No construction necessary	A reverse polarity sensor separate and distinct circuit from the vehicle battery isolation sensor and a jumper cable
Vehicle battery isolation sensor	No construction necessary	A vehicle battery isolation sensor separate and distinct from the reverse polarity sensor and a jumper cable
Input signals from said vehicle isolation sensor and said reverse polarity sensor	No construction necessary	An input signal received from said vehicle isolation sensor and a distinct input signal received from said reverse polarity sensor
such that said power switch is turned on to cause said internal power supply to be connected to said output port in response to signals from said sensors indicating the presence of a vehicle battery at said output port and proper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs, and is not turned on when signals from said sensors indicate either the absence of a vehicle battery at	No construction necessary	Such that said power switch is turned on to cause said internal power supply to be connected to said output port in response to a signal from the vehicle battery isolation sensor indicating the presence of a vehicle battery at said output port and a separate and distinct signal from said reverse polarity sensor indicating proper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity

said output port or improper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs		outputs, and is not turned on when the signal from the battery isolation sensor indicates the absence of a vehicle battery at said output port or when said reverse polarity sensor indicates improper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs.
Power switch connected between said internal power supply and said output port	No construction necessary	Power switch in electronic communication with and physically positioned between the power supply and output ports
Output port	Port through which power from an internal power supply is transmitted	External opening for receiving the plug of a jumper cable

The Special Master's Proposed Constructions are as follows:

Term or Phrase	Special Master Recommended Construction	Plaintiff's Proposed Construction	Defendant's Proposed Construction
Sensor	No construction necessary	The component of an instrument that converts an input signal into a quantity that is measured by another part of the instrument	No construction necessary
Reverse polarity sensor	A reverse polarity sensor separate from the vehicle battery isolation sensor	No construction necessary	A reverse polarity sensor separate and distinct circuit from the vehicle battery isolation sensor and a jumper cable
Vehicle battery isolation sensor	A vehicle battery isolation sensor separate from the reverse polarity sensor	No construction necessary	A vehicle battery isolation sensor separate and distinct from the reverse polarity sensor and a jumper cable
Input signals from said vehicle isolation sensor and said reverse polarity sensor	Distinct input signals from said vehicle isolation sensor and said reverse polarity sensor, respectively	No construction necessary	An input signal received from said vehicle isolation sensor and a distinct input signal received from said reverse polarity sensor
such that said power switch is turned on to cause said internal power supply to be connected to said output port in response to signals from said sensors indicating the presence of a vehicle battery at said output port and proper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs, and is not turned on when signals	No construction necessary	No construction necessary	Such that said power switch is turned on to cause said internal power supply to be connected to said output port in response to a signal from the vehicle battery isolation sensor indicating the presence of a vehicle battery at said output port and a separate and distinct signal from said reverse polarity sensor indicating proper polarity connection of positive and negative terminals of said vehicle battery with said
from said sensors indicate either the absence of a vehicle battery at said output port or improper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs			positive and negative polarity outputs, and is not turned on when the signal from the battery isolation sensor indicates the absence of a vehicle battery at said output port or when said reverse polarity sensor indicates improper polarity connection of positive and negative terminals of said vehicle battery with said positive and negative polarity outputs.
Power switch connected between said internal power supply and said output port	No construction necessary	No construction necessary	Power switch in electronic communication with and physically positioned between the power supply and output ports
Output port	Component through which power from an internal power supply is transmitted	Port through which power from an internal power supply is transmitted	External opening for receiving the plug of a jumper cable

### **Civil Rule 53 Standard**

Under Fed. R. Civ. P. 53(f), parties must file an objection within twenty-one days after a copy of the Special Master's Report is served. Fed. R. Civ. P. 53(f)(2). The District Court must then review the Special Master's factual and legal conclusions that are specifically objected to by either party. Fed. R. Civ. P. 53(f)(3), 53(f)(4); *see also Hockstein v. Microsoft Corp.*, 730 F. Supp. 2d 714, 717 (E.D. Mich. 2010), *aff'd* 430 F. App'x 898 (Fed. Cir. 2011). The Court conducts a de novo review of all objections based on factual findings and legal conclusions. See Fed. R. Civ. P. 53(f)(3) and (4).

### **B. The Claim Construction Process**

Claim construction is a matter of law for the Court to determine. *Markman v. Westview Instruments*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). The Court's task in this regard is to "inform the meaning of the claim language." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc). Put another way, the Court's assignment is "the contextual interpretation of language." *Smithkline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1339 (Fed. Cir. 2005). The three main sources for claim construction are the claims themselves, the written specification of which the claims are a part, and the prosecution history or file wrapper representing the back-and-forth discussion between the inventor and the Patent and Trademark Office ("PTO"). *Markman*, 52 F.3d at 979-80. These sources are collectively referred to as the intrinsic record of the patent. *Chimie v. PPG Indus. Inc.*, 402 F.3d 1371, 1377 (Fed.Cir.2005).

The words of a claim "are generally given their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. The ordinary and customary meaning is to be determined from the

perspective of one of ordinary skill in the art at the time of the invention. *Id.* at 1313.

“Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Accordingly, the court first looks to the claim language, read in view of the specification. *Id.* at 1315 (stating that the specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term”). However, while the court may look to the written description to define a term already in a claim limitation, the court may not read a limitation from the written description into a claim. *Id.* at 1323. In other words, although it is often stated that a patentee may be his own lexicographer, “a claim must explicitly recite a term in need of definition before a definition may enter the claim from the written description.” *Renishaw PLC v. Marposs Societa per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998).

The prosecution history is also relevant to claim construction as part of the intrinsic record. *Phillips*, 415 F.3d at 1317. For example, an inventor may disclaim a particular claim construction during prosecution before the PTO. *Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000). However, prosecution history is often ambiguous, *Inverness Medical Switzerland v. Warner Lambert Co.*, 309 F.3d 1373, 1382 (Fed. Cir. 2002); and courts must consider it carefully. *Phillips*, 415 F.3d at 1317 (“[B]ecause the prosecution history represents an ongoing negotiation between the Patent and Trademark Office (‘PTO’) and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.”). While the



prosecution history, including art referenced in the patent, may be used to inform the meaning of the claims, *V-Formation, Inc. v. Benetton Group Spa*, 401 F.3d 1307, 1311 (Fed. Cir. 2005), using a prior art reference to infer what the Examiner or the applicant thought about the meaning of a term, based on whether a particular claim interpretation would read on the reference, is not an appropriate use of the prosecution history. At claim construction, the court is “not concerned with the state or scope of the prior art.” *Sky Technologies, LLC v. Ariba, Inc.*, 491 F.Supp. 2d, 154, 157 (D.Mass. 2007) (citations omitted). The court “is also not concerned with how far the patent or claims as a whole may extend in terms of breadth of subject matter. A court is concerned only with the interpretation of a disputed term.” *Id.*

Other evidence of claim meaning, such as inventor testimony, expert testimony, and lay or technical dictionary definitions, is referred to as extrinsic evidence. *Phillips*, 415 F.3d at 1317. However, extrinsic evidence is less important than the intrinsic evidence and cannot contradict a claim definition from the intrinsic record. *Id.* at 1318-19; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004) (explaining “that the intrinsic record is the primary source for determining claim meaning”).

### **Special Master’s Proposed Constructions**

Neither party objects to the Special Master’s Proposed Constructions on “sensor,” “input signals,” “such that said power switch...,” and “output port,” therefore, the Court accepts and adopts the Special Master’s Proposed constructions on these claim terms. The Court’s analysis will be limited to those Proposed Constructions expressly objected to by Defendants.

The Special Master was asked to construe the terms “reverse polarity sensor” and “vehicle battery isolation sensor.” Plaintiff argued no construction was necessary for the terms.

Defendants' proposed construction for "reverse polarity sensor" adds the phrase "separate and distinct from the vehicle battery isolation sensor and a jumper cable." For "vehicle battery isolation sensor," Defendants' proposed construction adds the phrase, "separate and distinct from the reverse polarity sensor and a jumper cable."

The Special Master proposes the following constructions: "Reverse polarity sensor" is construed to claim "a reverse polarity sensor separate from the vehicle battery isolation sensor." "Vehicle battery isolation sensor" is construed to claim "A vehicle isolation sensor separate from the reverse polarity sensor."

The Special Master removed Defendants' proposed use of the term "distinct," finding it redundant as being synonymous with the term "separate." The term "separate" was a significant argument by the Patent owner in its prosecution of the patent as prior art did not disclose the redundant nature of the two separate sensors and the Special Master determined this crucial to the patent's claim.

The Special Master further concluded that because Claim 1 includes the term "comprising" as a transitional phrase which courts have held to be open-ended, and there is nothing in the description or prosecution history demonstrating an intent that the sensors be separate from a jumper cable, no such limitation should be read onto the claim.

Lastly, the Special Master proposed that the phrase "power switch connected between said internal power supply and said output port" needs no construction as it is clear and unambiguous on its face. Plaintiff agreed no construction was needed while Defendants argued that the phrase should be construed to be "power switch in electronic communication with and physically positioned between the power supply and output ports."

The Special Master rejected Defendants' proposed construction, finding no evidence in the prosecution history nor language in the patent claim to support the conclusion that the power switch must be physically located between the power supply and output ports.

### **Objections**

There are three objections by Defendants to the Special Master's proposed claim constructions. The first two objections are actually the same objection to the Special Master's proposed constructions for "reverse polarity sensor" and "vehicle battery isolation sensor" because the Special Master's construction does not require the sensors be separate from a jumper cable.

Defendants' third objection concerns the Special Master's determination that the term "power switch connected between said internal power supply and said output port" needs no construction. Defendants argue the claim must be construed to require the power switch be physically positioned between the power supply and output ports. The Court will address these objections in turn.

### **Sensors and Jumper Cable**

In arguing that Claim 1 should be construed to include language that the sensors be separate from a jumper cable, Defendants contend without such a limitation the claims' requirement that the sensors be connected in circuit with the positive and negative polarity outputs would be impossible if the sensors were located on a jumper cable.

Plaintiff responds that the Special Master correctly determined that claims do not have to encompass the entirety of a disclosed invention. Therefore, the claim is not required to disclose how the sensors are connected in circuit with the positive and negative outputs. Furthermore,

contrary to Defendants' assertion that the patent is silent with regards to jumper cables, Claim 21 describes "the apparatus of claim 1, further comprising a jumper cable device." Thus, according to Plaintiff, it would be improper for the court to preclude the placement of claimed sensors in jumper cables when the patent expressly describes the use of jumper cables with the device.

Upon review of the Special Master's Proposed Constructions, Defendants' Objections and Plaintiff's Response, the Court overrules Defendants' Objections and adopts the Special Master's Proposed Construction of "reverse polarity sensor" and "vehicle battery isolation sensor." The Court agrees with the Special Master that Claim 1 should not be construed to require the sensors be separate from a jumper cable. As the Special Master correctly recited, Claim 1 begins, "Apparatus for jump starting a vehicle engine, comprising:." The Federal Circuit has held "In the patent claim context the term "comprising" is well understood to mean "including but not limited to." *CIAS, Inc. v. All. Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007). In *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 811 (Fed.Cir.1999) the Federal Circuit explained that patent drafters "use the signal 'comprising,' which is generally understood to signify that the claims do not exclude the presence in the accused device or method of factors in addition to those explicitly recited." The patent disclosure further contains the following language: "the invention having been thus described, it will be apparent to those skilled in the art that the same may be varied in many ways without departing from the spirit or scope of the invention. Any and all such variations are intended to be encompassed within the scope of the following claims." ('015 Patent, Col 7, line 65, Col 8, line 2). Thus, the term "comprising" does not limit the claim to only those embodiments as described therein and the patent disclosure further recognizes other variations will be encompassed in the patent's scope.

Also, because the claim does not describe how the sensors are to be connected in circuit with the jump starter's positive and negative polarity outputs, the claim language does not preclude embodiments where conceptually the sensors may be located on jumper cables. Moreover, dependent Claim 21 clearly contemplates the use of jumper cables. Thus, a plain reading of the language of Claim 1 does not impose a limitation that the sensors be separate from a jumper cable and the Court agrees with the Special Master's Proposed Construction and adopts the same.

### **Power switch position**

Defendants object to the Special Master's recommendation that the phrase "power switch connected between said internal power supply and said output port" requires no construction. Defendants proposed the following construction: "power switch in electronic communication with and physically positioned between the power supply and output ports." The Special Master rejected Defendants' proposed construction because the prosecution history, the claim language and the representative figures do not describe any unique positioning of the power switch.

According to Defendants, the phrase is not readily understandable by a lay jury. Defendants contend that the term "connected between" does not simply mean link between components but necessarily requires the components be able to communicate electronically. In addition, Defendants argue Claim 1 recites that "the power switch is turned on to cause said internal power supply to be connected to said output port," meaning the power switch must be physically between the internal power supply and output port. Thus, according to Defendants, in order for the power switch to turn on the internal supply to the output port there must be a wired connection between the components with the switch located in between.

Plaintiff in response echoes the Special Master’s finding that the ‘015 patent does not indicate the physical positioning of the power switch in relation to the other elements nor is there evidence of such in the prosecution history. Furthermore, Plaintiff points out that none of the embodiments show the power switch physically located between the internal power supply and the output port. Plaintiff also argues that should the Court adopt Defendants’ construction it would import into the claim something that is not in the specification which would contravene clearly established caselaw.

Lastly, Plaintiff contends Defendants are barred from raising for the first time the argument that “connected between” requires a wired connection because they did not raise it in their claim construction briefs, nor did they raise it before the Special Master at the claim construction hearing.

The Court agrees with the Special Master that Claim 1 of the ‘015 patent and the specification are silent as to the physical location of the power switch. Likewise, the prosecution history does not support Defendants’ argument for the physical location of the power switch and the accompanying figure 2B-2 does not show the power switch physically positioned between the output port and power supply. Therefore, the Court will not read such a limitation onto the claim. See *Phillips*, 415 F.3d at 1316 (“[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention”); quoting *United States v. Adams*, 383 U.S. 39, 49, 86 S.Ct. 708, 15 L.Ed.2d 572 (1966). Because no such limitation is found in the claim or the specification, the Court agrees with the Special Master that the Court should not place such a requirement on the claim. Therefore, the Court adopts the Special Master’s proposal that the term requires no construction.

Lastly, the Court agrees with Plaintiff that Defendants never raised the wired connection argument with the Special Master and such argument is therefore waived. See *McMillan v. Sec'y of Health & Human Servs.*, 26 Cl. Ct. 357, 358 (1992) (“Moreover, courts have continuously followed the general rule that an issue or argument not raised in the trial court, here before the special master, is waived”); Citing *Cedar Lumber, Inc. v. United States*, 857 F.2d 765, 767 (Fed.Cir.1988).

Therefore, for the foregoing reasons, the Court overrules the Defendants’ Objections and adopts the Special Master’s Proposed Constructions.

IT IS SO ORDERED.

s/ Christopher A. Boyko  
CHRISTOPHER A. BOYKO  
United States District Judge

Dated: April 18, 2019